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ABSTRACT

This document reports on an observation instrument and data obtained over 2 years as part of the national evaluation of project Follow Through. Data was collected from 70 kindergarten and first grade classrooms involved 7 different experimental programs and including 2 comparison (control) classrooms. The primary instrument used to measure teacher classroom management was organized around the concepts of the teacher's methods of control, the pupils' responses to these methods, and the emotional climate as represented by the expression of affect. Another instrument was used by observers to record teaching activities in terms of their agreement with practices espoused by Dewey. Data were submitted to factor analysis. Findings suggest that the teacher who feels pressure to give pupils greater freedom may minimize both structure and control by reacting to her own discomfort in ways that do not support pupil growth. It appears that greater degrees of direction and structure are associated with greater amounts of growth in the simple cognitive objective, but greater amounts of freedom and pupil self-direction are associated with more complex abstract kinds of growth. With these disadvantaged children, negative affect seems to have little impact, while positive affect is related to cognitive growth. (Author/AJ)

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A MEASURE OF TEACHER CLASSROOM MANAGEMENT[1]

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The data to be described here were obtained as part of the National Evaluation of project Follow Through. In this overall program a number of experimental programs for the education of disadvantaged young children have been supported in field trials. Extensive evaluation has been carried out including data on parents, homes, communities, schools, teachers, aides, and the pupils themselves. The major evaluation role has been assumed by Stanford Research Institute, from whom pupil data were obtained for this study, but other projects, such as this one, have been contracted to others.

In the results described here, observational data were collected from eight classrooms from each of seven experimental programs, with two comparison classrooms (so-called because their selection was not under sufficient control to warrant the term "control"), from sites where the experimental programs were located, for a total of 70 kindergarten and first grade classrooms.

The instrument, which is the primary focus of this paper, evolved most directly from the South Carolina Observation Record, whose relations with pupil growth were reported earlier (Soar, 1966, 1968; and Soar, R. S., and Soar, Ruth M., 1969). It, in turn, drew heavily on an early version of the Observation Schedule and Record (Medley & Metzel, 1958), and the Hostility Affection Schedule (Fowler, 1963). Additional items were drawn from Katz, Peters & Stein (1968),

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and Sears, Rau & Alpert (1964) to represent behavior of younger children, and a number of new items were developed.[2] These items represented such behaviors as seeking or giving information, involvement in work or socialization, use of fantasy, evidence of the child planning a sequence of behavior to reach some goal, and responsibility taking. Earlier items had involved such behavior as extent of physical movement in the classroom, the nature and size of the groupings present, whether for task or social purposes, whether with or without an adult, and the eight combinations of teacher-pupil, verbal-nonverbal, and supportive-nonsupportive expression of affect. (See Figure 1).

In the second year of the project, the instrument was modified considerably (Figure 2) and reorganized around the concepts of the teacher's methods of control in the classroom, and the response of the pupils to these methods; and the emotional climate as represented by the expression of affect. Only minor revision in this latter set of items occurred.

Data collection was carried out by a team of two observers who spent a day in each classroom; one observing with the instrument just described, the other with an instrument which recorded a variety of teaching activities in terms of their agreement or disagreement with practices espoused by Dewey (Experimentalism). Simultaneously, a tape recording was made which was later coded on two other instruments - one which recorded the cognitive level of the interaction, the other an extension of Flanders Interaction Analysis, the Reciprocal Category System (Ober & others, 1968).

The data from each observational instrument were reduced by factor analysis, incomplete factor scores were calculated to describe each classroom, and the differences between programs tested by the multiple range test. The same factor scores were also used to relate classroom process to mean regressed pupil gain,

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[2]Suggestions by Dr. Ira J. Gordon are gratefully acknowledged.

classroom by classroom, on a series of measures from the pupil data collected by Stanford Research Institute. Since these measures were more numerous than seemed desirable, they too were reduced by factor analysis, with the resultant scores differing in the level of complexity or abstractness of the performance involved. In the first year's data two such factors were obtained; in the second year's data, due to extensive changes in the pupil test battery, three factors were obtained, representing three levels of complexity or abstractness of performance.

Findings

One of the strongest factors which came out of this observation instrument each year, as well as the other live observation instrument, was one which apparently represented the extent to which the teacher directed, controlled, managed, and reinforced the activities occurring in the classroom, in contrast to giving pupils greater choice and freedom of action. Both in terms of eigenvalues from the factor analysis, and in terms of the significance of discrimination between programs, this was a very powerful factor. It also correlated .87 across instruments in the second year's data, indicating that the same dimension of classroom behavior is apparently very similarly identified even though different observers and different instruments with very different theoretical orientations are involved. Apparently a very central and pervasive aspect of differences between classrooms (and differences between programs) is identified by the factor. The factor did not relate significantly to the cognitive growth of pupils either year, or for either instrument, however. For this factor, as well as others, there was the suggestion of nonlinearity in the data.

There appears to be some reason to assume that the creation of classrooms, either with a relatively high degree of structure or with a relatively low degree

of structure and teacher control, is not an issue which is as important in the cognitive growth of pupils as the attention given it. Either the dimension is not significantly related to the growth of pupils, or it is related in such a way that intermediate levels of teacher control and pupil freedom are most functional for pupil growth.

This conclusion is subject to immediate qualification, however, in the sense that numbers of other factors seem to reflect more detailed and specific ways in which teachers manage classrooms, and do relate to pupil growth. For example, for the first year's instrument, one of the factors presented a constellation in which pupils are working on a problem set by the teacher, parallel work or play is common, and the teacher occasionally either supervises the activities of pupils in considerable detail, step by step, or attempts to bring all physical movement of pupils to a stop. Although this factor was unrelated, overall, to the major factor just described, classrooms that were extreme in the amount of freedom given pupils on the major factor tended also to be extreme in the extent to which teachers created this latter pattern of behavior in the classroom. This latter factor was significantly negatively related to more complex abstract growth of pupils.

This finding, as well as several other aspects of the data of the two years suggests a post hoc interpretation of an aspect of classroom management which seems reasonable to us, and which we and our observers feel we can see in classrooms. That interpretation is that a distinction can be made between structure and control in the classroom. In the sense intended here, structure would represent the sequence of activities which are regularly carried out in the classroom, the limits of behavior which pupils know and observe -- in effect, the standard operating procedures within which the classroom operates. Control, on the other hand,

would represent the moment-to-moment interactions of the teacher with pupils, intended to modify the behavior of pupils. The implication would be that these two constructs are to a considerable degree unrelated, but that for at least some teachers a minimum of structure probably is required in the classroom, or else controlling behavior on the part of the teacher will be necessary to compensate for the lack of structure. To some degree, that is, the two may be interchangeable, and the presence of a sufficient amount of structure may relieve the teacher of the need to direct and control the behavior of pupils.

This implication seems especially important in relation to the current interest in "open" classrooms. It suggests that the teacher who feels pressure to give pupils great freedom may minimize both structure and control, and may then react to her own discomfort in ways which do not support pupil growth.

Another aspect of the data which seems to us to be of some importance is the suggestion that measures of pupil growth differing in abstractness relate in rather different ways to differences in the characteristics of the classroom. Again, the relations are often not significant, even when relatively strong, because of the small samples (ranging from 9 to 35 classrooms). The pattern which has occurred in earlier work (Soar, 1968), and which occurs often across the various subgroups for both years in these data, is a tendency for abstract measures of pupil growth to relate positively to classroom behavior dimensions that reflect pupil freedom and self-direction, whereas simpler, more concrete measures of pupil growth tend not to relate, or even in some cases to relate negatively to the same measures. In contrast, the simpler measures of pupil growth tend to be related to classroom behavior dimensions representing more structure and more control on the teacher's part. In addition, these relationships are also frequently nonlinear. The tendency is for the more abstract

PS 005140

measures of pupil growth to show increased growth rates as freedom increases up to a point, but that at the greatest degrees of pupil freedom, even abstract growth appears to be diminished. When similar kinds of nonlinear relations are found for lower and intermediate levels of complexity of growth measure, the point of highest growth tends to fall toward the more controlled or structured end of the dimension. The general principle, then, appears to be one in which greater degrees of direction and structure are associated with greater amounts of growth in the simple cognitive objectives, but greater amounts of freedom and pupil self-direction appear to be associated with the more complex abstract kinds of growth. But this conclusion is qualified by a decrease in growth at the extremes in either direction.

A related tendency, which appears with some frequency in the correlations of observation items with measures of pupil growth, is one in which teacher behaviors which restrict pupil freedom correlate positively with pupil growth in kindergarten, but negatively in first grade. If we picture the average kindergarten as permitting greater freedom than the average first grade, then probably the two groups of classrooms fall on opposite sides of the inverted "U" which often describes the relation between classroom behavior and pupil growth.

The most pervasive finding appears to be that simple statements of greater amounts of pupil freedom being supportive of pupil growth appear not to be warranted. It appears to be necessary, rather, to specify the kind of freedom which is meant and the complexity of the measure of growth, in order to make a meaningful statement, and then to recognize that the relation is probably nonlinear, and that the level of the behavior is also important.

A finding which emerged from the second year's data was that a measure which represented close teacher control attained by the use of negative affect, and another measure which was made up largely of pupil expression of negative

affect, both related as nearly zero with all measures of pupil growth in all subgroups as might be expected if the true relation were zero. On the other hand, two measures of positive affect expression appeared to be positively related to a number of kinds of pupil growth across the subgroups. One of the dimensions represented the teacher's gathering pupils into a group in a way in which created cohesiveness or "we-feeling," the other factor, was made up principally of pupil expression of positive affect. The first of these related strongly and significantly with a series of measures; the second related strongly but not significantly. (The two relate to each other above .60). The implication of these data which interests us is the suggestion that for these disadvantaged pupils negative affect (perhaps short of actual physical attack) may have little impact. It seems reasonable that they may live with negative affect so commonly that it has ceased to have much meaning to them. In contrast, however, positive affect appears to be related to growth, in one case rather powerfully.

Parenthetically, a series of studies of classroom behavior appears to indicate that the expression of positive and of negative affect are essentially unrelated in classrooms, rather than being strongly negatively related to each other as might be expected. The implication of these data, then, would appear to be that the presence or absence of negative affect may have little meaning for cognitive growth, but that the presence of positive affect may be important. It would seem reasonable, too, to expect that this interpretation may be limited to disadvantaged or lower class pupils, and that different results might be found with middle or upper class children.

A final point of some importance to us, at least, is that the relations of process factor scores which have been discussed here are probably generally underestimates of the true relationship between measures of classroom behavior

and measures of pupil growth. When we have related individual items of classroom behavior to measures of pupil growth, the typical finding has been that within a factor which relates even moderately well to the growth of pupils, a few items will be relatively strongly related to pupil growth, others in only minor ways, and not infrequently an item or two will be negatively related to pupil growth. This is not surprising, since the factor analysis recognizes only interrelationships among the behavioral measures, and combines them on that basis. It does not take into account the relationships of these same items of behavior with the measures of pupil growth. As the number of classrooms from which we have data increases, however, we hope to be able to work with individual items of behavior in a way which has not been feasible so far.

We hope also to analyze kindergarten classroom behavior separately from first grade behavior, since their relations with pupil growth appear to differ. The items from the FLACCS that correlate with pupil growth in kindergarten are not often the ones that correlate with growth in first grade.

All in all, what these data appear to suggest is that in order to identify meaningful relationships between the characteristics of classrooms and the growth of pupils, we will need to identify in relatively fine detail the nature of the classroom behavior which is being analyzed, and that we will need to be able to relate these measures of behavior to measures of pupil growth which represent a particular level of cognitive complexity, and that the relationships can then in many cases be expected to be nonlinear.

While these data have dealt only with cognitive growth, it would be surprising if the relationships of the nature of the classroom to noncognitive measures of pupil growth were any less complex. But the possibility appears to exist that methodology now being employed is capable of producing greater understanding of the nature of the classroom which fosters the growth of young children.

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